

NOTES ON *PLANORBIS VORTICULUS*, TROSCHEL, AND *PL. LÆVIS*,
ALDER; ALSO ON SOME PROPOSED SUBDIVISIONS OF THE
GENUS.

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1. *PLANORBIS VORTICULUS*, Troschel.

The occurrence of this species in the Pleistocene of England was first noted in 1905,¹ when it was recorded from Grays, Swanscomb, and West Wittering. I am now able to record it from the Cromerian (Forest Bed) of West Runton, Norfolk, the Holocene of Knettishall, Suffolk, and in a recent state from Pevensey, Sussex. From the Cromerian it is represented by a single example in the collection of Mr. B. B. Woodward, and the specimens from the Holocene of Knettishall, Suffolk, were obtained from material sent by Mr. A. Mayfield, whilst the recent examples were collected a few years ago by the late P. Rufford. It may be worthy of record that when this species was first noted in the Pleistocene of Swanscomb Dr. A. C. Johansen told me that he quite expected this species to be found living in England, since on the Continent it was a rare form and was easily overlooked, and I think that this explanation is the correct one. In a fossil state it is perhaps not so likely to be passed over, but living examples might easily be mistaken for immature *P. vortex*. Now that attention has been called to the form there is very little doubt that it will be found in several of the eastern and south-eastern counties of England.

2. *PLANORBIS LÆVIS*, Alder.

There has always been a divergence of opinion as to the correct name of the shell which has been known in succession as *Planorbis lævis*, Alder, *P. glaber*, Jeff., and *P. parvus*, Say. It was first noticed in this country in 1832, and was described by Alder in 1838 as *P. lævis*,² and this name continued in use until the publication of Jeffreys' "British Conchology," when it was identified with the previously described *P. glaber*, Jeff. Since Jeffreys' work was accepted as the standard authority, *glaber* displaced *lævis* until the last few years, when the form has been identified with the North American species *P. parvus*, Say. The last use of *lævis* in this country that I can trace was in 1899 by Lieut.-Colonel H. H. Godwin-Austen.³ *P. glaber* was described by Jeffreys in 1833.⁴

He states: "Found with the last [*P. albus*], though much less common. It is a much more depressed shell than the *P. albus*, of

¹ A. S. Kennard & B. B. Woodward, Proc. Malac. Soc., vol. vi (1905), pp. 356-7.

² Trans. Nat. Hist. Soc. Northumb., 1838, p. 337.

³ Proc. Malac. Soc., vol. iii (1899), p. 260.

⁴ Trans. Linn. Soc., vol. xvi, pp. 387-8.

a white colour, more polished and transparent, and is destitute of any markings. The upper side is uniformly more even, and the under exceedingly concave." It will at once be noticed that this description does not quite agree with *P. lævis*, for that species is never found with *P. albus*, and it is not white.

Moreover, examples of *P. glaber* sent by Jeffreys to Alder are stated by the latter to be only a variety of *P. albus*,¹ and it was considered as such by J. E. Gray and Forbes & Hanley. That *P. glaber*, Jeff., of "British Conchology" is *P. lævis*, Alder, there can be no doubt, but it appears to me that the *P. glaber*, Jeff., of the Linn. Trans. is only a variety of *P. albus*.

Under these circumstances and in justice to the memory of one of our most competent malacologists, it is advisable to relegate *glaber*, Jeff., to the synonymy of *albus*, Müll., and to revive the use of *lævis*, Alder.

The question, however, whether we should use *parvus*, Say, is another matter.

There are in the Holarctic region several described species which conchologically have considerable resemblance to each other. These include *lævis*, Alder, *parvus*, Say, *arcticus*, Beck, *Sibiricus*, Dunker, *Rondeli*, Bourg., *vermicularis*, Gould, and *Rossmæsslevii*, Auers. Practically nothing is known of the anatomy of these forms, and it is quite impossible to state whether these are geographical races of one species, or whether we are dealing with genuine species with a superficial likeness. In any case, it is better to retain the specific name *lævis*, for though similar to the American *parvus* it is not identical.

It is, I think, worthy of note that both the Palæarctic and Nearctic regions possess a group of three species in the *Gyraulus* group. In North America we have *P. hirsutus*, Gould, *P. defectus*, Say, and *P. parvus*, Say, and in Europe there are *P. albus*, Müll., *P. Stroemii*, West., and *P. lævis*, Alder, and there is great similarity between the species in the order given. This may be a mere coincidence, but it is possible that it may be a phenomenon in the evolution of species.

3. ON SOME PROPOSED SUBDIVISIONS OF THE GENUS.

Dr. W. H. Dall has recently elaborated a new scheme of classification for *Planorbis* with some new subdivisions,² and there are two proposed new sections which, in my opinion, are open to criticism. Dr. Dall's divisions are as follows³ :—

Section *Diplodiscus*, Westerlund (restricted).

Shell small, with numerous slowly enlarging whorls, keeled or angulate from the beginning. Type, *P. vortex*, Linn.

¹ Mag. Zool. Bot., vol. ii (1837), pp. 113-14.

² Dr. W. H. Dall, Land and Freshwater Mollusca of Alaska; New York, 1905.

³ Op. cit., pp. 85-6.

Section *Paraspira*, Dall, nov. sect.

Shell resembling *Diplodiscus*, but with the whorls rounded throughout and the aperture simple, hardly expanded. Type, *P. rotundatus*, Poiret.

It may be noted that in order to use *Diplodiscus*, Westerlund, Dr. Dall has a wholesome disregard for the rules of nomenclature, which is indeed noteworthy after the priority purist view that he has taken with regard to *Euconulus fulvus*, Müll. Dr. Dall is unfortunate in his choice of a type species for his proposed section *Paraspira*, for it is now quite impossible to say what Poiret's species was.

It is sometimes applied to *P. leucostoma*, Millet, a form which is so closely allied to *P. spirorbis*, Müll., that it is considered by some authorities to be only a variety of that species, but this form sometimes possesses, if not a keel, certainly an angulation. Taking, however, the description of the section, the species which answers best to the description is *P. spirorbis*, Müll., but in any case the only character that separates the two sections is that *Diplodiscus* possesses a keel and *Paraspira* does not.

But this is not even a specific distinction in *Planorbis*, for it is an inconstant character in *P. albus*, and cannot be considered sectional even if we have a classification of only one species to each section. A classification which, purely on conchological grounds, places *P. spirorbis*, Müll., in one section, and *P. vortex*, Linn., in another, appears to me to be over-elaborate.

With regard to another proposed section, *Torquis*, and the subgenus *Gyraulus*, Agassiz, there is a little confusion. Dr. Dall defines them as follows:—

Subgenus *Gyraulus*, Agassiz.

Shell small, flattish, with few, rapidly increasing whorls, fully exposed above and below with a nearly median periphery, spirally striate and hispid; aperture simple, sharp-edged, oblique. Type, *Planorbis albus*, Müll.

Section *Torquis*, Dall, nov. sect.

Like *Gyraulus*, s.s., but with more rounded, less rapidly increasing whorls, not hispid or spirally striate, the aperture expanded and slightly thickened in the adult. Type, *P. parvus*, Say.

The differences between the subgenus *Gyraulus* and the section *Torquis* are so slight that they cannot be considered sectional. The only real criterion is the presence or absence of spiral striæ, and since as a rule these can only be detected by the aid of a lens, I venture to think that here again an unnecessary section has been created, and the synonymy has been added to. Even Dr. Dall himself is not clear as to the limits of this new section, for in the account of "*Planorbis (Torquis) Nathorsti*, Westerlund," he states that it has spiral striation, whilst in his definition of the section *Torquis* he expressly states that it is not spirally striate. Moreover, he is of opinion that this species

is intermediate between *parvus* and *arcticus*, though how a species which is spirally striate can be intermediate between two others neither of which possesses this character is more than I can understand. Dr. Dall also throws doubt on the specific name of *Planorbis albus*, Müll. He says with reference to *Planorbis hirsutus*, Gould,¹ "The identity of our American species with the so-called *P. albus*, Müll., of Europe, I do not doubt, but whether the name *albus* is the proper one to use for the latter is open to question, and on the present occasion I prefer to use a name about whose application no doubt can exist."

With regard to the above statement, Dr. A. C. Johansen informed me that Müll. 's types are undoubtedly the species which is always called by the name *albus*.

It is possible, however, that Dr. Dall refers to the claim that has been put forward that *P. spirorbis*, Linn., should be used instead of *P. albus*, Müll., but any attempt to transfer a well-established name such as *spirorbis* from the species to which it has been applied for over one hundred years to another common species should, I think, be resisted by all students, for endless confusion would result. Whether *P. albus*, Müll., and *P. hirsutus*, Gould, should be considered one species is an old and vexed question. Personally I am convinced they are distinct, and this opinion is, I believe, shared by many competent malacologists.

I must tender my best thanks to Dr. A. C. Johansen, Messrs. Bryant Walker and A. Mayfield, and Dr. E. Wüst for kind assistance.

¹ Op. cit., p. 94.